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# THE AEROPLANE SPOTTER

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**The National Association of Spotters' Clubs**
*Edited by* PETER G. MASEFIELD
M.A. (Eng.) Cantab; A.F.R.Ae.S.
Technical Editor of "THE AEROPLANE."

**FOR THE ALERT**
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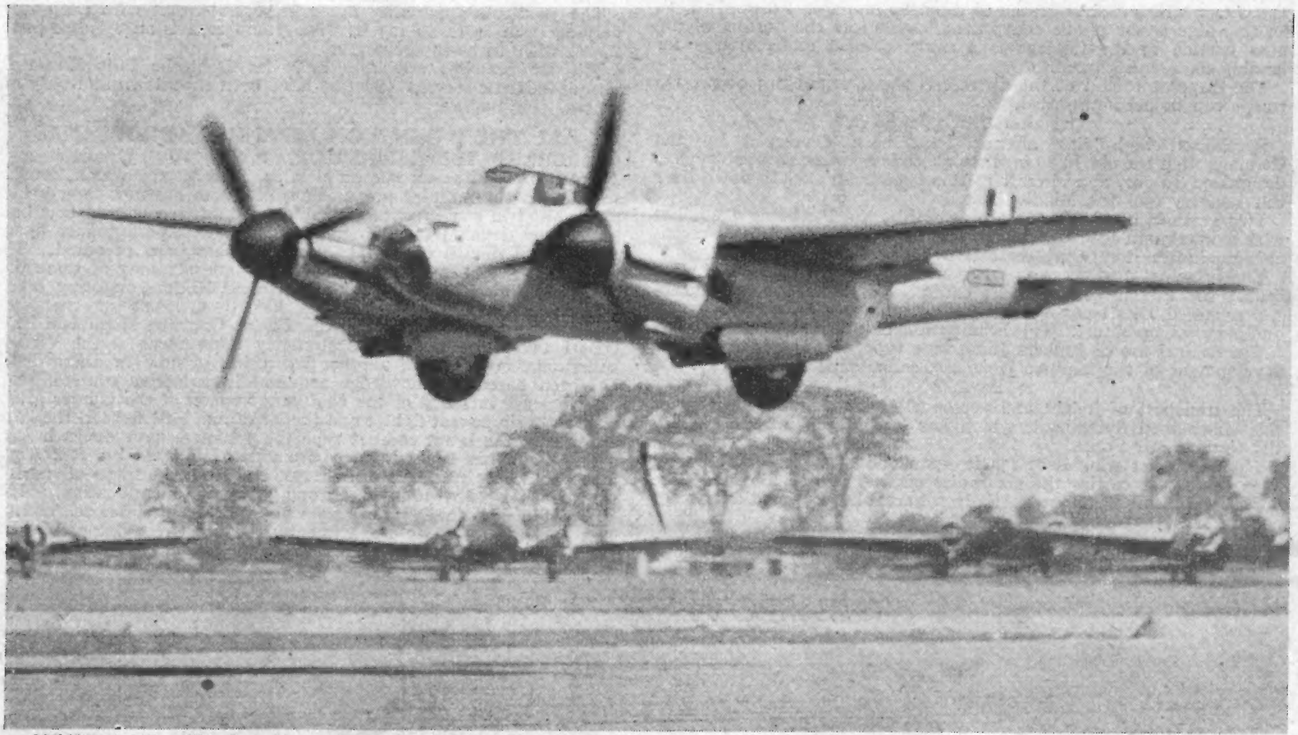


**WHEELS UP.**—The first Mosquito to be made in Canada is here seen in flight, immediately after the take-off. It was test-flown by Geoffrey de Havilland, Jun., at Toronto. Avro Ansons of various vintages form a guard of honour in the background.

NO MORE convincing demonstration of the dominant influence of Air Power in the ascendency could have been given than the action in which 136 aeroplanes of General MacArthur's Air Forces wiped out 12 transports, three light cruisers, seven destroyers and at least 63 aircraft of the Japanese Navy in the Bismarck Sea on March 6 for the loss of only four Allied aircraft.

Despite—and, more probably, because of—the absence of dive bombers among their numbers, the Allied Air Forces were able to fight their way through the inferior Japanese air cover and inflict crippling damage on the ships in the early stages of the battle. All the Allied aeroplanes concerned possess powerful defensive armament as well as a shattering weight of attack. As a result, Allied command of the air was established above the convoy. After that the result was certain. Annihilation was achieved with 226 tons of bombs with 80 direct hits and 63 near misses.

All the various types of aeroplane taking part in the attack were land-based with the exception of the Catalinas, which did good work both in reconnaissance and in bombing. The rest of the bombers included Bristol Beauforts, which made a torpedo attack, North American Mitchells, Boeing Fortresses, Consolidated Liberators, and Douglas Havocs. These latter are not the night fighters, but the day bombers known as Boston IIIs by the R.A.F. and Havocs by the U.S. Army Air Forces. The bombers, which made most of their runs at mast-head height, were escorted by Bristol Beaufighters, Curtiss Kittyhawks, and Lockheed Lightnings, most of which went in to the attack as well.

Never has so complete a victory been won by unsupported Air Forces over sea craft. Very few survivors remained from the 15,000 Japanese troops and the crews of the ships. Nor were the naval forces entirely without air cover, as the record of loss among the Japanese aircraft goes to prove. Probably some of these aeroplanes were catapulted from the ships, others may have flown from distant shore bases in enemy hands. Nevertheless, they could make no showing against the Allied air superiority nor could they save the ships.

Thus 22 ships, some of them of fair size and nearly half of them warships, have been sent to the bottom decisively by a land-based striking force of high quality which included no dive bombers and few torpedo bombers. The versatility of the Allied machines was such that they could first of all establish the requisite local air mastery and then, having done so, proceed with the major job in hand.

This proof of the dominance of the air weapon is another precursor of the future, when aeroplanes far more powerful in attack, in defence and in range than any flying now will be guardians of the freedom of the World, able to strike swiftly and decisively at any fermenting trouble that should threaten peace. And under the cover of that global air security the air commerce of the World will link peoples more intimately than ever before. The discovery of the power of controlled flight, which has brought with it such horror, will yet prove one of the greatest blessings of mankind.

In history the air-sea fight of the Bismarck Sea will not be forgotten.

# NEWS OF THE WEEK

### PTERODACTYL—ED

MR. PETER MASEFIELD underwent an emergency operation for appendicitis on March 2. He is now making good progress. He regrets that he will not be able to deal with his correspondence for some days yet, although he hopes to continue with some of his other work.

### OFFICIAL DETAILS OF LUFTWAFFE EQUIPMENT

THE following somewhat inadequate particulars were issued by the Air Ministry following a request for official information by THE AEROPLANE recently. We give the "hand out" as circulated:—

#### Me 323

Latest and largest of the so-called "powered gliders," this Messerschmitt transport monoplane has six French Gnôme-Rhône 14M radial engines, each of 700/800 h.p. at 10,000 ft.

The engines are arranged in line-abreast along the leading-edge of the wings, which is strut-braced to the deep fuselage. Forward of the leading-edge is the pilot's cockpit, and built into the bottom of the nose portion of the fuselage is a multi-wheeled undercarriage for landing on rough ground.

The disposable load of the aircraft is about 22,000 lb.; about 130 troops can be accommodated.

#### High-altitude Ju 86

Specialised high-flying aircraft have been developed by the Germans from the old Ju 86 medium-altitude bomber. One sub-type is designated Ju 86P, and aircraft of this type have already flown over this country and the Middle East.

Two versions of the Ju 86P are available, the P-1 being a bomber with a maximum load of 2,200 lb., and the P-2, a long-range reconnaissance aircraft carrying three cameras.

The principal modifications incorporated are:—(i) Increase of wing span. (ii) Fitting of a pressure cabin. (iii) Installation of turbo-supercharged Diesel engines. (iv) Reduction of crew to two (pilot and wireless operator). (v) Elimination of armament.

The engines are of Junkers Jumo 207A type, this is a high-altitude development of the familiar Jumo 205 commercial engine.

#### Bv 222

The transport of freight and personnel is the primary function of this six-engined flying-boat, which has lately been introduced into the German Air Force.

The cantilever wing is of 150 ft. span and of typical Blohm und Voss design; it carries the six radial engines in line abreast. The lateral stabilising floats are partially retractable. Powered armament is installed.

#### DB 606

The DB 606 engine, as installed in the He 177 bomber, is a combination of two DB 601 units, which are mounted side by side and drive a single propeller through an extension shaft.

Reports that an engine of this type is installed in a Messerschmitt fighter, known as the Me 115, are inaccurate, as no aircraft of that designation exists.

To these poorly put-together scraps of information we would add that the Me 323 is a high-wing monoplane with a span of about 176 ft. and a loaded weight of some 60,000 lb. The 10 wheels of the undercarriage are arranged in pairs in the manner of an 0-10-0 railway locomotive. The idea is to give the advantages of a tricycle undercarriage with tail-up position on the ground, low tyre loads and low drag. Only the lower half of the diameter of each wheel is exposed.

The Air Ministry states that about 130 troops can be accommodated but that the disposable load is about 22,000 lb. An average soldier with pack is normally reckoned as weighing 200 lb., which would make the minimum disposable load 26,000 lb.

The top speed of the Me 323 cannot be above 150 m.p.h.

The Ju 86P is apparently flying in several forms with wing spans varying from 84 ft. to 103 ft. The Jumo 207A is an opposed-piston Diesel with turbo-supercharger.

The Bv 222 was originally built for Deutsche Luft Hansa for a trans-Atlantic service. Several have been shot down and only one or two can be left.

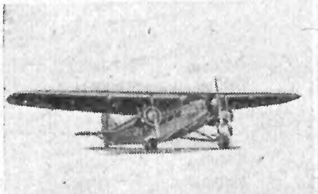
### ALL THE "GEN" ON JAPANESE AEROPLANES

AIRCRAFT IDENTIFICATION, PART V, "Japanese Aeroplanes," will be on sale on Mar. 22. The secrecy which formerly surrounded the military preparations of Japan has now largely been pierced and in consequence a complete aircraft recognition text book exclusively devoted to photographs, silhouettes, performance figures and general details of 42 Japanese types has been prepared. This will be of special interest to Service Spotters who may at some time have to work with the forces of the United Nations opposing Japan.

Sparse though the information has been, some of the latest Japanese types are included in this book. One, the Mitsubishi Navy OB-01 two-motor bomber, is strangely reminiscent of the Vickers-Armstrongs Wellington, another indication of how Japanese design has been based on knowledge acquired from foreign sources. New drawings are included of the floatplane version of the famous Mitsubishi S.00 single-seat fighter and the Nakajima S-01 fighter, the latter apparently the latest combat type the Japanese have devised.

This book has been produced from data collected by THE AEROPLANE and THE AEROPLANE SPOTTER and from the fruits of research work done by Mr. John H. Stroud. Aircraft Identification, "Part V," can be had (on Mar. 22) from any newsagent, price 2s., or from THE AEROPLANE Book Department, Bowling Green Lane, London, E.C.1, price 2s. 2d., including postage.

## THE SPOTTERS' A.B.C.—XLIX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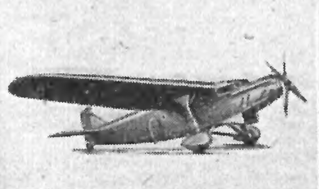
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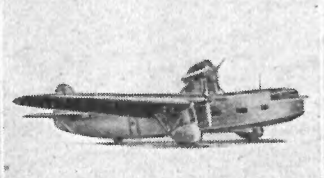
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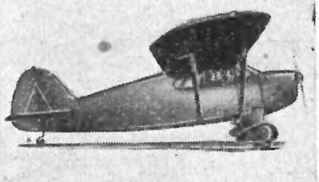
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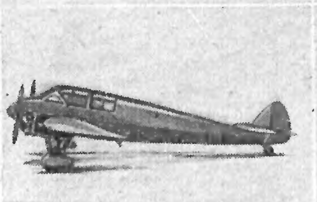
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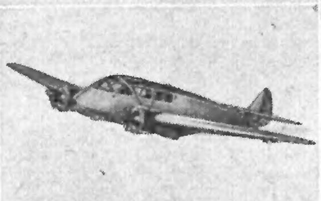
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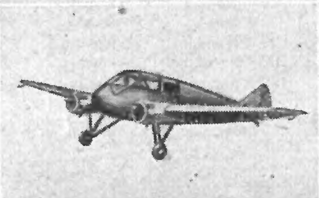
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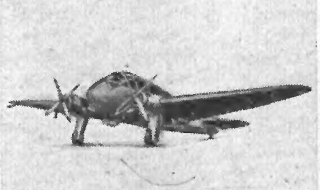
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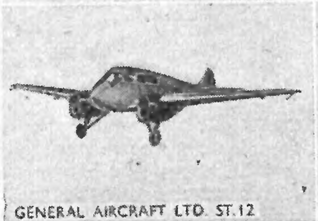
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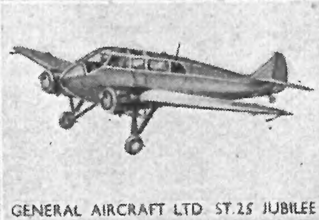
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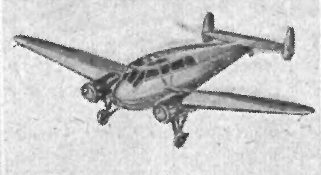
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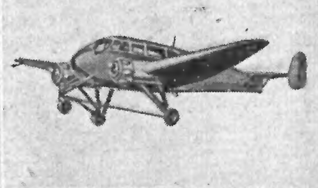
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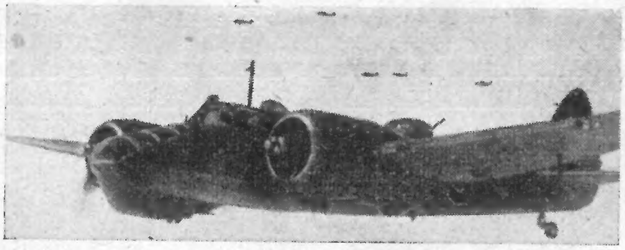
FORDS AND MONOSPARS.—The Fords continued through the **5-D**, last of the tri-motors, with a speed of 150 m.p.h. and carrying 14 passengers, to the **8-A**, of 1931. This had a single 650 h.p. Hispano-Suiza motor and was built for freight work. It used up a large number of tri-motor components, and had a speed of 138 m.p.h. Last of the large Fords (the Company ceased aircraft manufacture in 1932), the **14-A**, carried 32 passengers in a fuselage of flying-boat aspect. One 1,100 h.p. 18-cyl. W-type Hispano motor was mounted centrally on a high cabane and two 720 h.p. 12-cyl. Vee Hispanos, set in the wings, drove the airscrews through extension shafts. The **Funk B**, 1941, was an American cabin light aeroplane carrying pilot and passenger and powered with a 65 h.p. 4-cyl. Funk motor made from automobile parts. Speed was 112 m.p.h. When General Aircraft Ltd. took over the Monospar Company in 1934 the **ST.4** four-seat cabin monoplane of the latter firm's design was put into production. It had two 90 h.p. Pobjoy Niagara Is which gave it a speed of 130 m.p.h. The **ST.6** was a development with a retractable undercarriage and the **ST.10** was a further improvement; the first of this type, piloted by Capt. H. M. Schofield, won the 1934 King's Cup Air Race at 136 m.p.h. Both this and the **ST.11** with retractable undercarriage and a speed of 155 m.p.h. were also fitted with Niagara Is. The **ST.12**, another four-seater, had two 130 h.p. D.H. Gipsy Majors. The Jubilee **ST.25** of 1935, developed from ST.10, reverted to Pobjoys, having two Niagara IIs of 90 h.p. each. It seated five, but the Universal, which followed, had accommodation for four only and was convertible for freight work or ambulance work. The experimental tricycle **ST.25** led to the successful tricycle Cygnet and Owlet types. All the ST. types employed the single spar cantilever wing invented by Mr. H. J. Stieger. Hence the generic term Monospar. [588

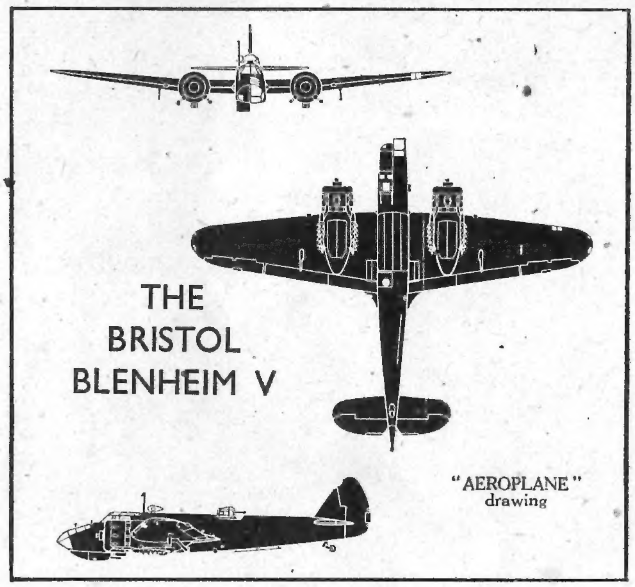
### AIRCRAFT IN THE NEWS—LXXIX

## THE BRISTOL BLENHEIM V



BRISTOL BLENHEIM V bombers are now operating from Algeria and India against the enemy in Tunisia and Burma. The Blenheim V (two 830 h.p. Bristol Mercury XXX motors), the Bristol 160, is a development of the older Blenheim IV, and is heavily armoured for day bombing duties in close support of ground forces.

Modifications which distinguish the Blenheim V day bombe. from the older Blenheim IV are the semi-transparent asymmetrical nose which is longer on the starboard side than on the port, the new type of under gun position in the nose to defend the tail, and the new type of dorsal twin-gun turret.



THE BRISTOL BLENHEIM V

"AEROPLANE" drawing

There are at least two other versions of the Blenheim V, a close support day bomber with a non-transparent nose and a trainer without the dorsal gun turret. Neither of these versions has the gun position under the nose for rear protection.

The main wheels of the undercarriage are fully retractable unlike the earlier versions of the Blenheim although the fixed tail-wheel is retained. Bombs can be carried in the fuselage underneath the wing spar and in the wings inboard of the motors.

The crew consists of three: a pilot, a navigator-bomb-aimer, and a radio-operator-gunner.

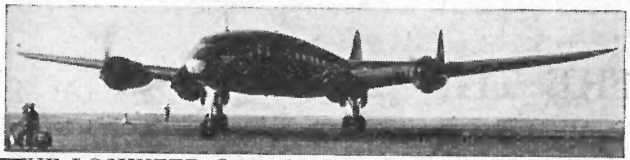
DIMENSIONS.—Span, 56 ft. 4 in.; length, 43 ft. 8 in.; height, 16 ft. 0 in.; wing area, 469 sq. ft.; aspect ratio, 6.79.

WEIGHTS AND PERFORMANCE.—No information is available for publication.

POINTS OF RECOGNITION.—Two-motor mid-wing monoplane with a "squashed" asymmetrical nose. Most taper is on the trailing edge of the wings; pointed tips and large fillets between the trailing edge and the fuselage. Dorsal turret and single fin and rudder with curved edges and a pointed tip. Slight taper on the leading and trailing edges of the tailplane with pointed tips similar to the mainplane. Fixed tailwheel.

### CIVIL IDENTIFICATION—LXXIX

## THE LOCKHEED C-69, THE CONSTELLATION



THE LOCKHEED C-69, the Constellation (four 2,000 h.p. Wright Cyclone 18-cylinder motors), made its first flight on Jan. 9 from Burbank, California, with a crew of five. It flew for one hour, including a cross-country flight to the Army aerodrome at Muroc, where it landed. The undercarriage was not raised during this flight.

The Constellation was originally developed by Howard Hughes and Jack Frye, President of Transcontinental and Western Air Inc., and a number were to be built for T.W.A. and Pan-American Airways. It has now been adopted by the U.S. Army Air Forces as the C-69 as a military transport. The maker's number is Lockheed 49.

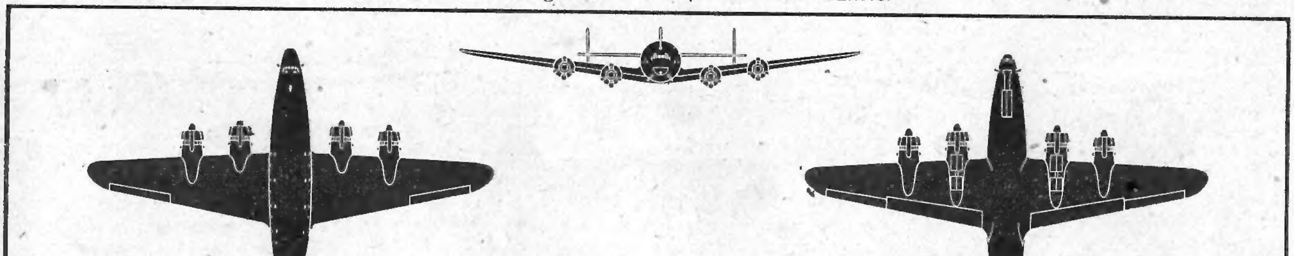
Originally intended for 55 passengers and a crew of nine, the C-69 is said now to carry a light tank, about 60 troops or a big load of freight. The fuselage has circular cross-sections throughout its length, but is cambered from the longitudinal axis fore and aft to give the maximum floor width. The pressure cabin is designed to maintain a density equal to that at 8,000 ft. when the C-69 is flying at from 20,000 to 35,000 ft.

Aerodynamically, the wings are an enlargement of those of the Lockheed Lightning and are fitted with telescoping "manœuvring" flaps which retract into the wings. Fowler landing flaps are also fitted.

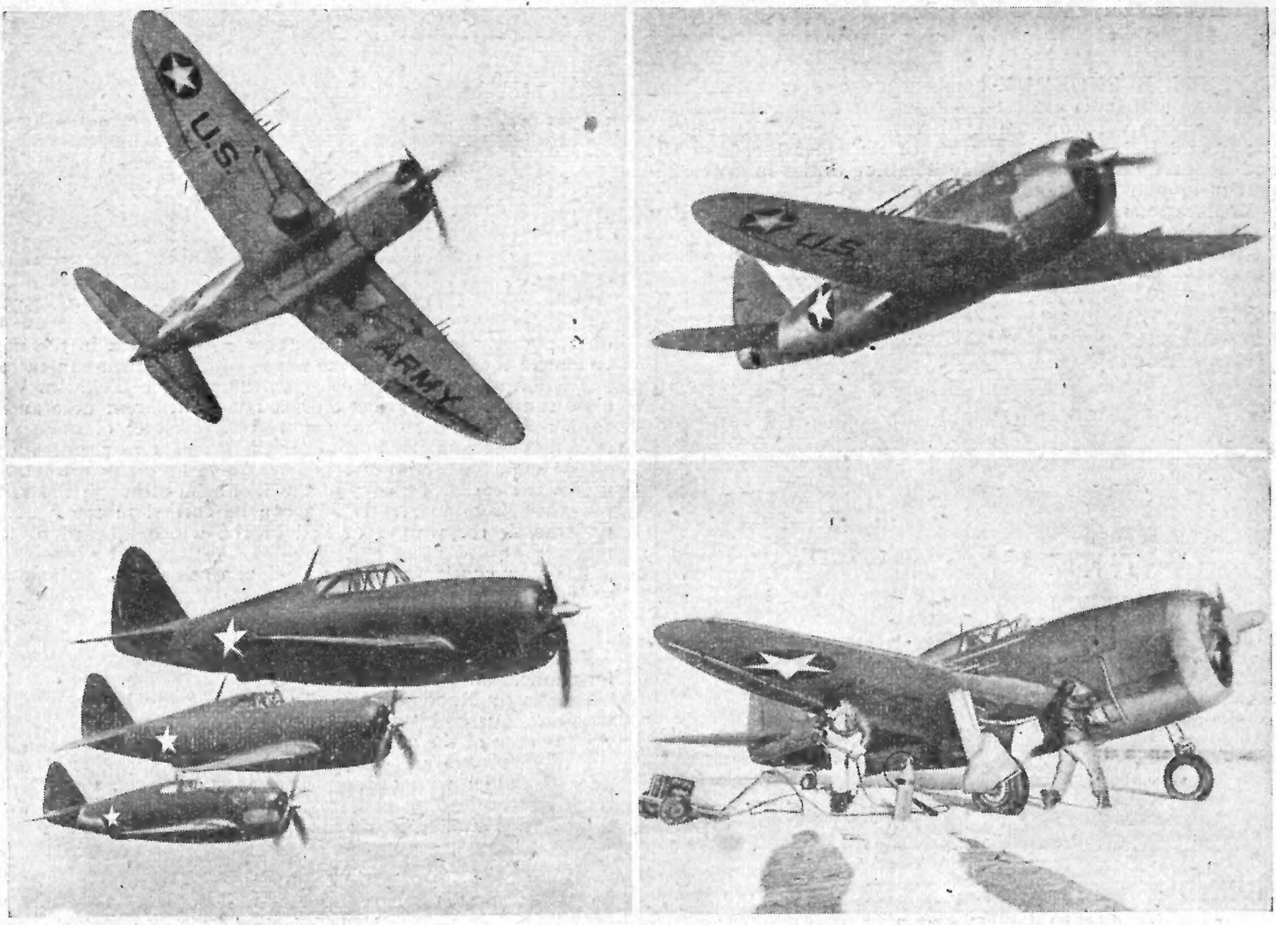
Other features include stainless steel motor nacelles and cowling with automatic fire-control systems, exhaust-gas de-icers instead of pulsating rubber shoes on the leading edge of the wing, hydraulic boosters on all controls and interchangeable motor installations.

Specification of the Constellation has not yet been released, but its height is 18 ft. 8 in. and the landing speed is 77 m.p.h. It is reputed to have a maximum range of 4,000 miles and a cruising speed of 280 m.p.h. at 25,000 ft., with pressure cabin in use. With full load, petrol consumption is said to be one U.S. gallon per air mile. The span is reported to be 110 ft. and the length 85 ft.

POINTS OF RECOGNITION.—Low-wing monoplane with tapered wings and most of the taper on the leading edge, and pointed tips. Long "swine-back" fuselage, rectangular tailplane, and triple fins and rudders.



"AEROPLANE" drawing



GATHERING STORMCLOUDS.—Republic Thunderbolt fighters are now appearing in substantial numbers on various fronts.

### LESSER KNOWN TYPES—LX

# THE REPUBLIC P-47B THE THUNDERBOLT I

THE REPUBLIC THUNDERBOLT has the distinction of being the largest and heaviest single-motor single-seat fighter in the World. It is also one of the most powerful, with the 2,000 h.p. Pratt and Whitney Double Wasp R-2800 18-cylinder two-row radial motor. Even so, its power-weight ratio works out at some 7 lb. per h.p., which is high, compared with the 5 lb. per h.p. of the Fw 190A3 and the 6.8 lb. of the Hurricane IIc bomber carrying two 500 lb. bombs. The wing loading of the Thunderbolt is, also relatively high at about 46 lb. per sq. ft.

These high loadings are to some extent counteracted by the use of a turbo-supercharger, which maintains the power of the Thunderbolt to about 25,000 ft. and gives it a service ceiling of around 40,000 ft. Various figures for top speed have been quoted between 390 and 420 m.p.h. high up. Armament of the Thunderbolt apparently varies from six to eight 0.50-in. machine-guns, which gives very great hitting power.

At the time of writing, the Thunderbolt has yet to be in action, but it should do well and prove a new thorn in the flesh of the enemy's Air Power. In service the Thunderbolt should prove faster, with a greater hitting power, than the Fw 190. The Thunderbolt (P-47) was designed by Alexander Kortveli as a development of Alexander de Seversky's Lancer (P-43). Obviously it should be capable of further development as even more powerful motors become available.

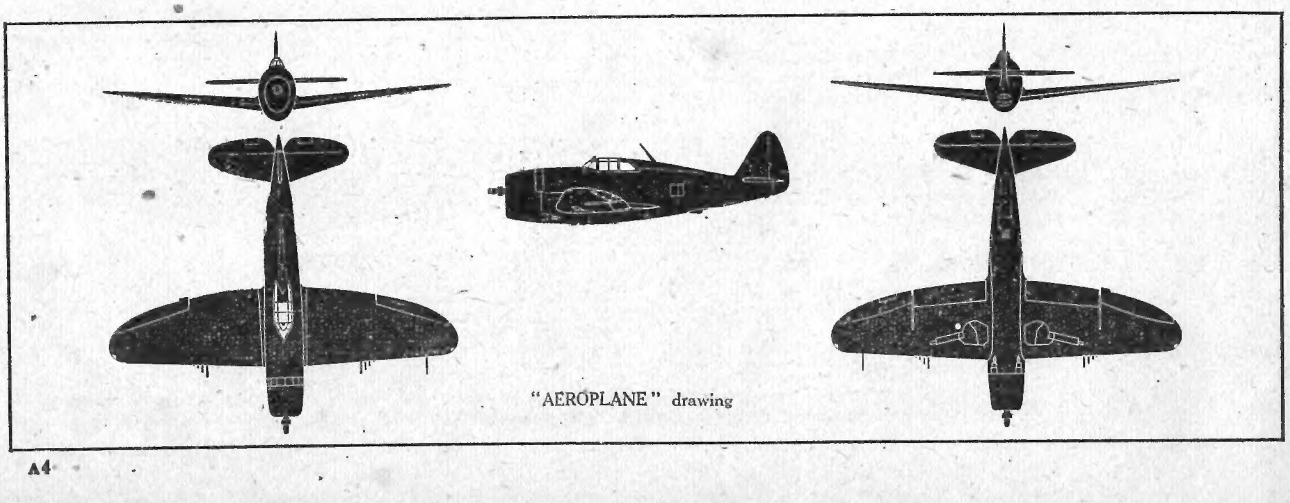
The following are the latest available particulars:—

Dimensions.—Span, 40 ft. 9¼ in.; length, 35 ft. 5¼ in.; height, 12 ft. 4½ in.; wing area, 305 sq. ft.; aspect ratio, 5.5.

Weight.—Loaded, about 14,000 lb.

Performance.—Max. speed, about 400 m.p.h. at 20,000 ft.

Points of Recognition.—Radial motor low-midwing monoplane with elliptical wing and tall pointed fin and rudder. Fuselage tapers sharply at rear. Inwards retracting undercarriage. Fully retractable tailwheel.



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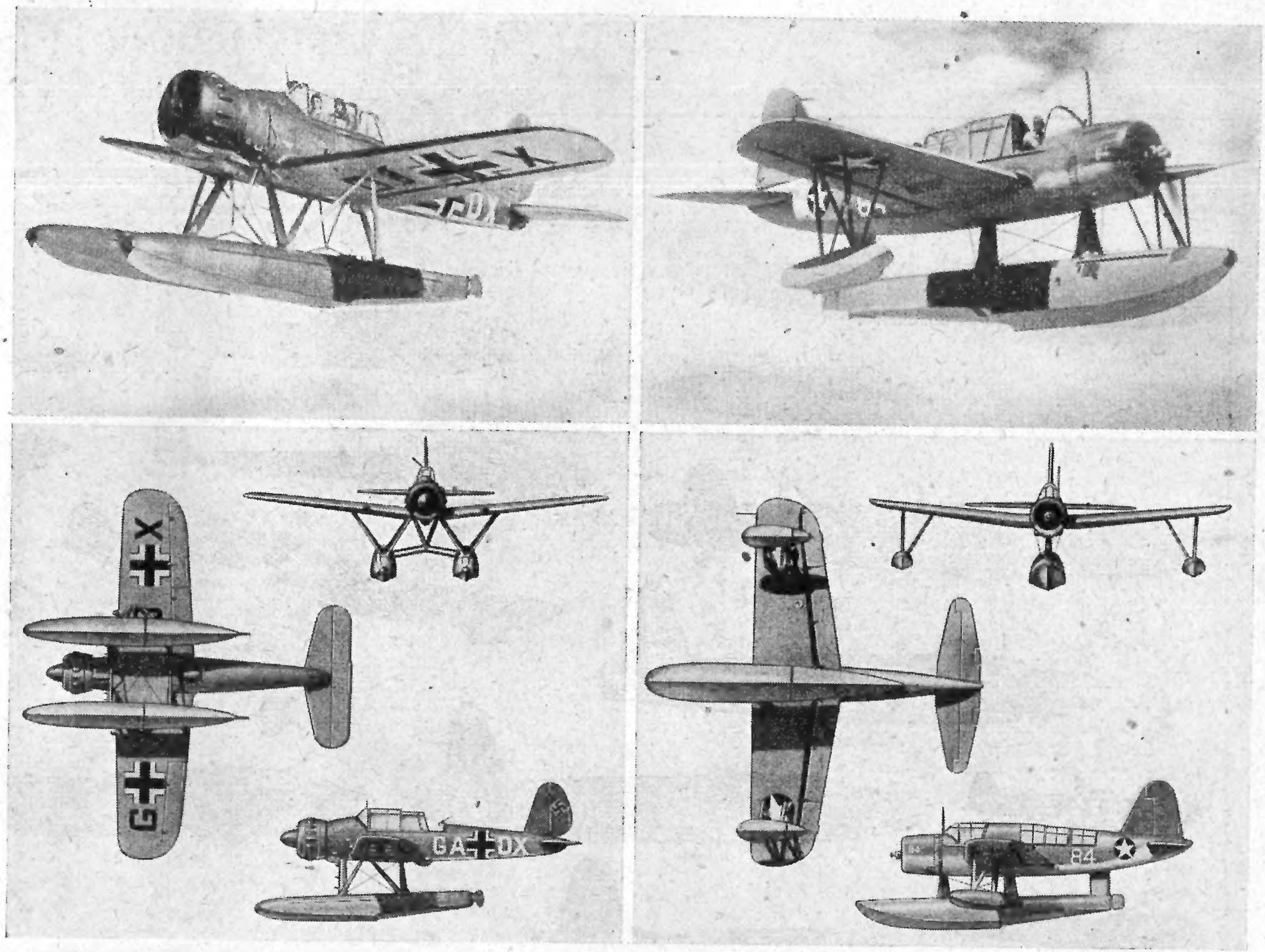

**DETAILED ANALYSIS.**—The points by which the subjects of the previous recognition problems can be recognised are illustrated in the photographs and drawings by W. J. Everest of the Arado Ar 196A (left) and the Vought-Sikorsky OS2U-3 Kingfisher I (right).

# Aircraft Recognition

THE Arado Ar 196A (one 920 h.p. Bramo Fafnir 323 radial motor) and the Vought-Sikorsky OS2U-3 Kingfisher I (one 450 h.p. Pratt and Whitney Wasp Junior R-985 radial motor) were the subjects of the previous recognition tests. Both are general-purpose two-seat float seaplanes designed for catapult launchings from warships.

The Ar 196A twin-float seaplane is in service to-day with practically every ship of the German Navy. It was first seen on the Graf Spee in 1939, and was encountered in the sinking of the Bismarck in 1941. Flying from French bases Ar 196A seaplanes have lately attempted to interfere with our Coastal Command anti-submarine patrols. The armament is two cannon in the wings, two machine-guns on the cowling, and a machine-gun on a movable mounting in the rear cockpit.

Points of recognition from this angle are the twin floats, large radial motor, raised cockpit enclosure, and the low wing with rounded tips and slight taper on the trailing edge only.

The Kingfisher illustrated here in U.S. Navy colours is in service in two versions, as a single-float seaplane and as a landplane. Both versions are also used by the Fleet Air Arm. The armament is two fixed machine-guns in the wings.

From the viewpoint shown the recognition features are the large braced single-float beneath the fuselage, rounded fuselage with long transparent cockpit enclosure, large radial motor, low-wing with taper on the trailing edge only, rounded tips, and small braced floats under each wing.

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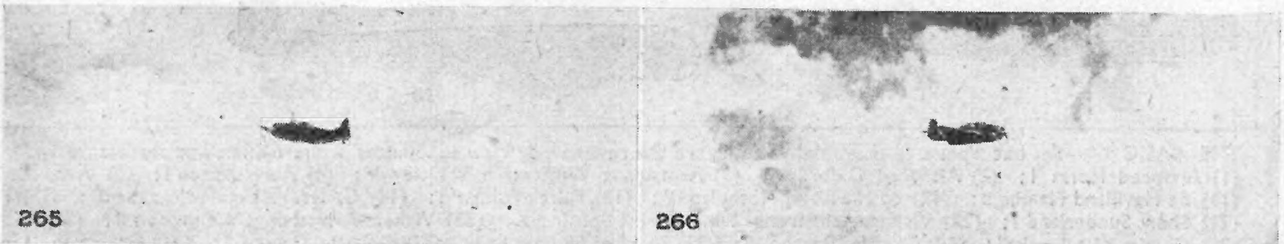
**PREVIOUS PROBLEMS.**—(Left) An Ar 196A and (right) a Kingfisher.



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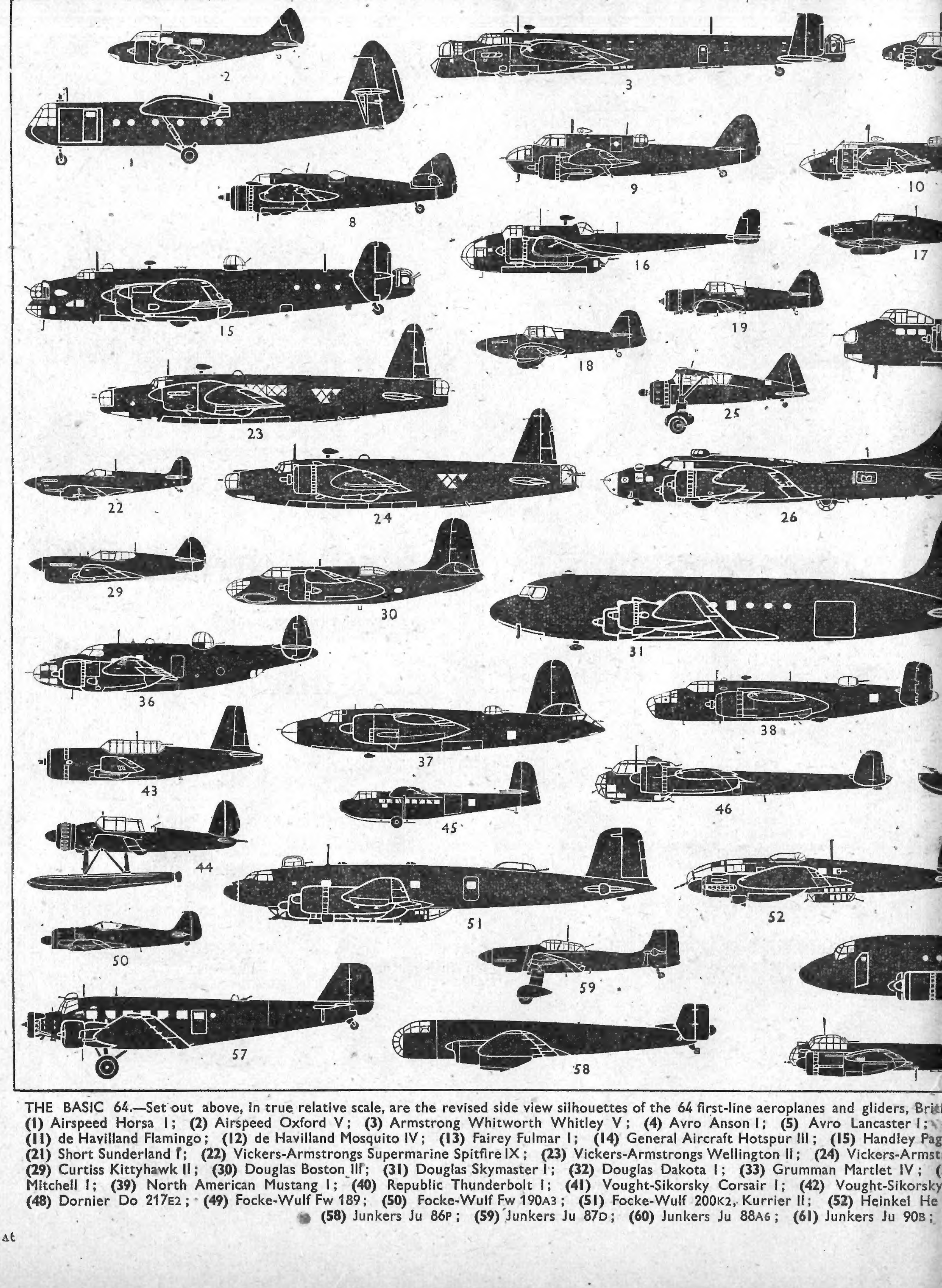
**FOR IDENTIFICATION LXXIX.**—Two more photographs to give practice in the recognition of Allied and enemy aeroplanes. What they are and notes on their characteristics will be published with two more photographs on March 25.

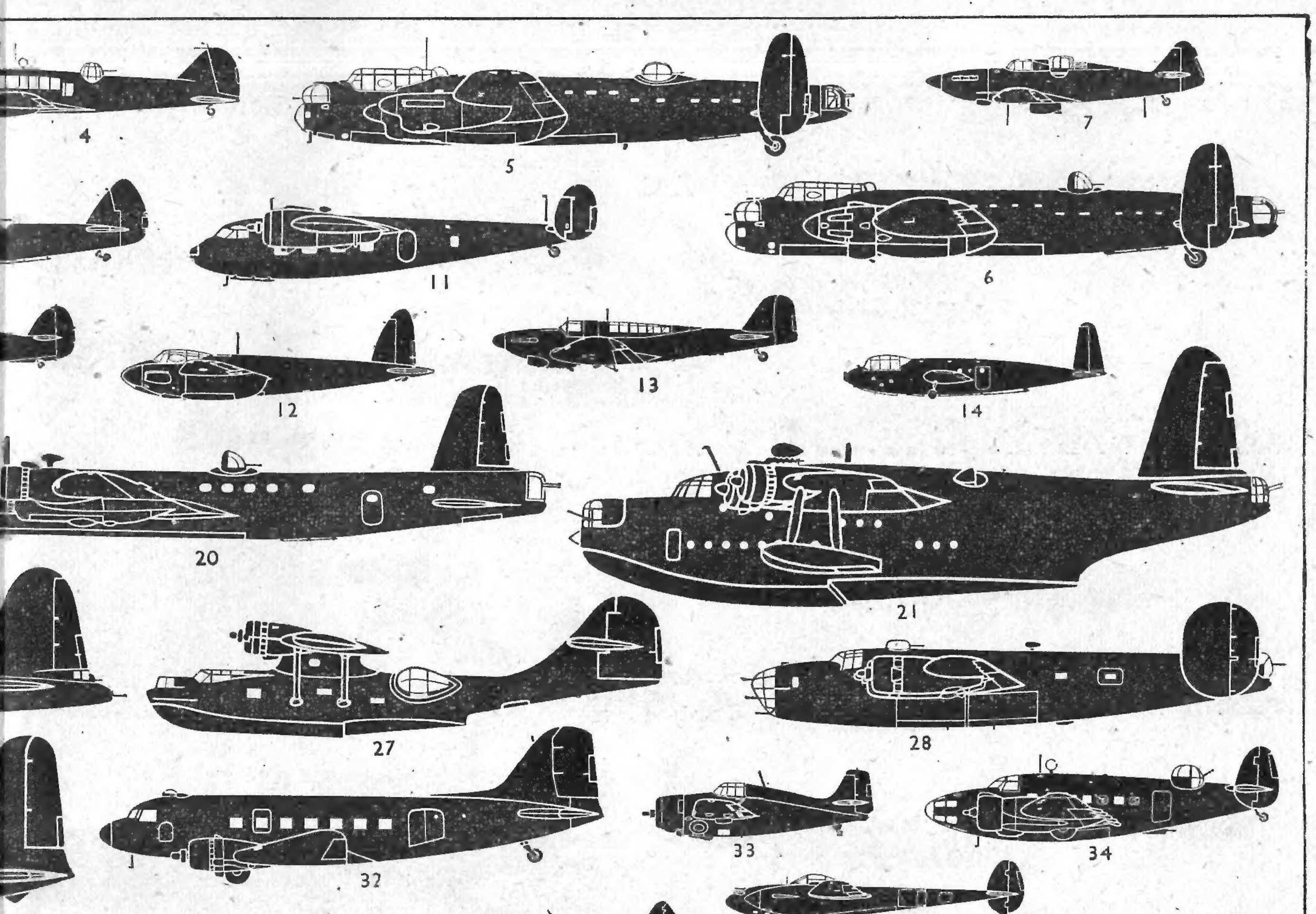
# THE SPOTTER'S



THE BASIC 64.—Set out above, in true relative scale, are the revised side view silhouettes of the 64 first-line aeroplanes and gliders, Brit
**(1)** Airspeed Horsa I; **(2)** Airspeed Oxford V; **(3)** Armstrong Whitworth Whitley V; **(4)** Avro Anson I; **(5)** Avro Lancaster I;
**(11)** de Havilland Flamingo; **(12)** de Havilland Mosquito IV; **(13)** Fairey Fulmar I; **(14)** General Aircraft Hotspur III; **(15)** Handley Pag
**(21)** Short Sunderland I; **(22)** Vickers-Armstrongs Supermarine Spitfire IX; **(23)** Vickers-Armstrongs Wellington II; **(24)** Vickers-Armst
**(29)** Curtiss Kittyhawk II; **(30)** Douglas Boston III; **(31)** Douglas Skymaster I; **(32)** Douglas Dakota I; **(33)** Grumman Martlet IV;
Mitchell I; **(39)** North American Mustang I; **(40)** Republic Thunderbolt I; **(41)** Vought-Sikorsky Corsair I; **(42)** Vought-Sikorsky
**(48)** Dornier Do 217E2; **(49)** Focke-Wulf Fw 189; **(50)** Focke-Wulf Fw 190A3; **(51)** Focke-Wulf 200K2, Kurrier II; **(52)** Heinkel He
**(58)** Junkers Ju 86P; **(59)** Junkers Ju 87D; **(60)** Junkers Ju 88A6; **(61)** Junkers Ju 90B;

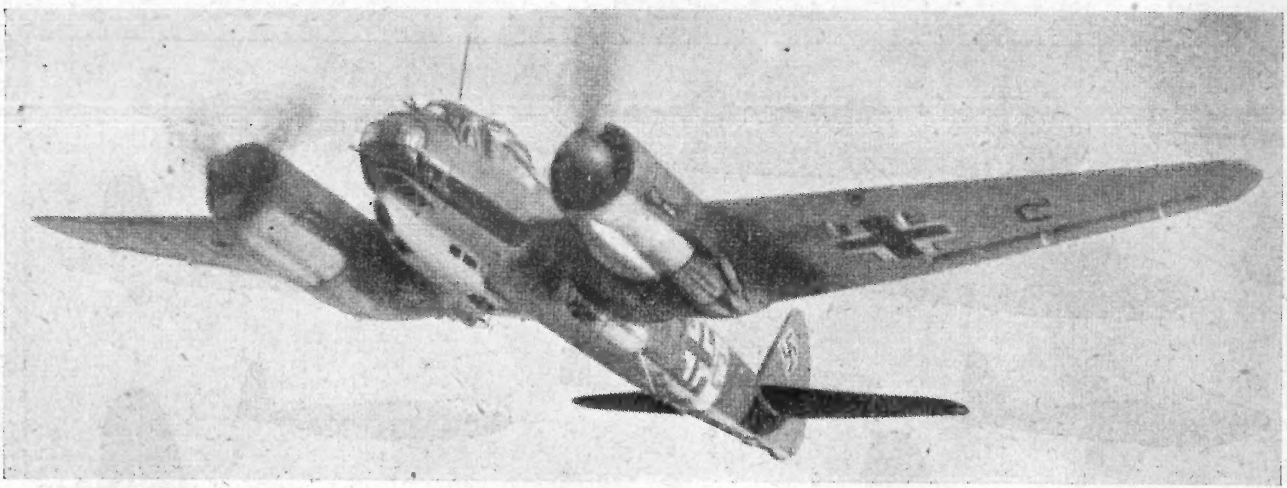
At

# BASIC SELECTION

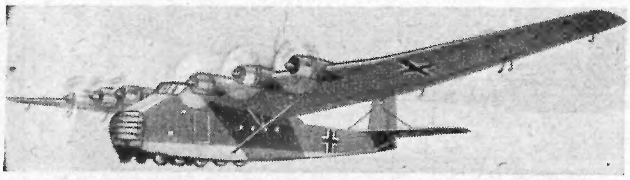


sh, American and German, which comprise the revised Third Class Test of the National Association of Spotters' Clubs. The aircraft are :—
**(6)** Avro Manchester IA; **(7)** Boulton Paul Defiant II; **(8)** Bristol Beaufighter I; **(9)** Bristol Beaufort II; **(10)** Bristol Blenheim V;
e Halifax II; **(16)** Handley Page Hampden I; **(17)** Hawker Hurricane IIc; **(18)** Miles Master I; **(19)** Miles Master III; **(20)** Short Stirling I;
rongs Wellington III: **(25)** Westland Lysander III; **(26)** Boeing Fortress II; **(27)** Consolidated Catalina I; **(28)** Consolidated Liberator III;
**34)** Lockheed Hudson III; **(35)** Lockheed Lightning I; **(36)** Lockheed Vega Ventura I; **(37)** Martin Marauder, I; **(38)** North American
Kingfisher I; **(43)** Vultee Vengeance I; **(44)** Arado Ar 196A; **(45)** D F S 230A1; **(46)** Dornier Do 17Z2; **(47)** Dornier Do 18K2;
111H3; **(53)** Heinkel He 115K2; **(54)** Heinkel He 177; **(55)** Henschel Hs 126; **(56)** Henschel Hs 129; **(57)** Junkers Ju 52/3mz;
**(62)** Messerschmitt Me 109E; **(63)** Messerschmitt Me 109F; **(64)** Messerschmitt Me 210A1.

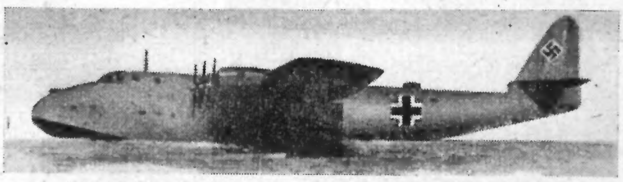
# NEWS IN PHOTOGRAPHS



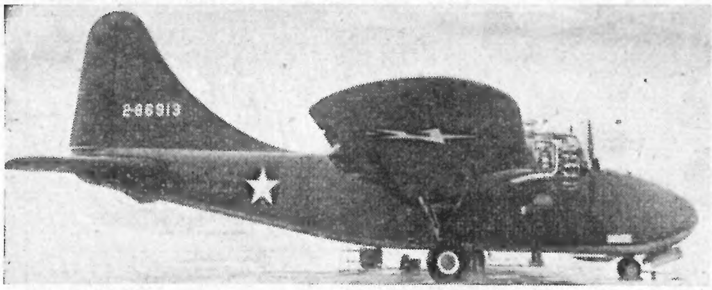
JUNKERS SECOND THOUGHTS.—One of the latest versions of the Ju 88 is depicted above.



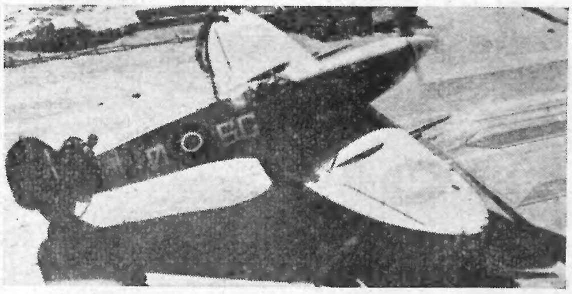
A CENTIPEDE POWERED GLIDER.—The new Messerschmitt Me 323 glider, which was developed from another large type glider, the Gigant. The span is 178 ft. and there are 10 landing wheels. The six motors are of the 800 h.p. Gnôme-Rhône 14M. radial type.



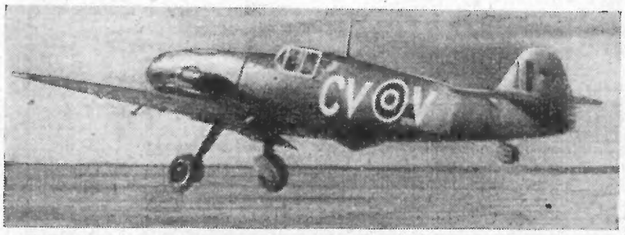
IMITATION.—The new German six-motor flying-boat which follows British aeronautical design. The motors are BMW 132 Dc of 1,000 h.p. each.



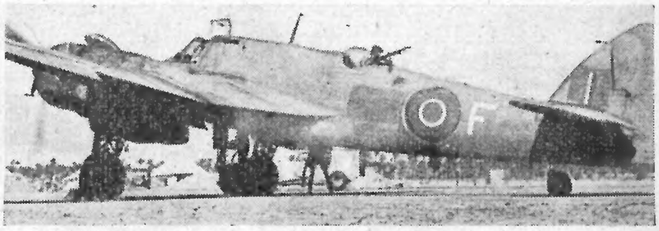
THE CARAVAN.—The first complete picture of the Curtiss C-76 Caravan two-motor freight carrier. It has a span of 108 ft., a length of 68 ft. and the floor of the fuselage is only 36 in. from the ground. The C-76 is built mainly of wood. Other transports built of wood and moulded plywood laminates are said to be in construction in the U.S.A.



ON DECK.—A Vickers-Armstrongs Supermarine Seafire I of the Royal Navy warming up on a British aircraft carrier. This photograph shows how little the Seafire differs from the Spitfire V externally. Spitfires have been in action in Australia since March.



TEST FLIGHT.—A Messerschmitt Me 109F takes off for a trial flight in British colours after having been repaired at an R.A.F. base in the Middle East.



UBIQUITY.—A Bristol Beaufighter I with a Vickers "K" gun in the dorsal cupola. Beaufighters are in action, day and night, in most theatres of war.

THE ENEMY FROM THE AIR.—Three photographs of German aeroplanes taken from above during daylight raids by the R.A.F. (Left) An Fw 190 diving away near Abbeville, (middle) a Ju 88 over Danzig, (right) an Fw 58B Weihe trainer over Aachen.

# THE NATIONAL ASSOCIATION OF SPOTTERS' CLUBS

## *GENERAL COUNCIL:*

*Hon. General Sec.* (South): P. T. Sampson, 56, Forest Drive West, E.11.
*Hon. General Sec.* (North): Miss M. Duncan, 10, Eden Street, Riddrie, Glasgow.

## *Hon. Secs. of REGIONAL COUNCILS :*

NORTHERN—T. Carver (pro tem.)
Royal Grammar School, Eskdale Tr., Newcastle-on-Tyne.

N-EASTERN—W. M. Sowerby,
9, Grange Pk. Place, Leeds.

N.-MIDLANDS—R. R. Langley,
80, Cornwall Rd.. Kettering, Northants.

EASTERN—J. E. Barnes,
140, Moulsham Drive, Chelmsford.

LONDON—F. C. Palethorpe,
38, Bridgewater Road, Alperton, Middx.

SOUTHERN—A. Marple,
16, Bridge Street, Reading.

SOUTH-WESTERN—E. Griffiths,
25, Charlton Ave., Filton, Bristol, 1.

WELSH—W. H. Young,
21, Beaufort Pl., St. Julians Pk., Newport, Mon.

MIDLAND—G. C. Matthews,
239, The Broadway, Dudley, Worcs.

NORTH-WESTERN—H. Pearson,
12, Plymouth Street, Oldham.

SCOTTISH—Miss M. Duncan,
10, Eden Street, Glasgow.

SOUTH-EASTERN—P. Chinery,
"Little Hemingfold," Battle, Sussex.

### MR. P. G. MASEFIELD

Mr. P. G. Masefield, Hon. Organising Secretary of the N.A.S.C., was taken ill with acute appendicitis on Tuesday, March 2. The Executive Committee of the General Council offers, on behalf of the National Association of Spotters' Clubs, the hope that Mr. Masefield will have a speedy recovery from his operation.

### NEW SPOTTERS' CLUBS

WE HAVE RECEIVED notice of the formation of the following new Spotters' Clubs:—

No. 539.—**Longton High School S.C.**—(Hon. Sec.: Keith B. Atkins, "Ashlea," Star and Garter Road, Longton, Stoke-on-Trent.) *Midland Region (No. 9).*

No. 540.—**Rayleigh 373 W.J.A.C.**—(Hon. Sec.: Mrs. E. Eastaugh, 18, Marina Avenue, Rayleigh.) *Eastern Region (No. 4).*

No. 541.—**Swindon and District.**—(Hon. Sec.: A. Hughes, c/o Swindon Press, Ltd., Newspaper House, Swindon.) *South Western Region (No. 7).*

No. 542.—**Tubes, Ltd., S.C.**—(Hon. Sec.: Capt. A. W. Ferry, 439, Streetsbrook Road, Solihull, Birmingham.) *Midland Region (No. 9).*

No. 543.—**Albright and Wilson, Ltd.**—(Hon. Sec.: Miss E. Stewart, Albright and Wilson, Ltd., Oldbury, Birmingham.) *Midland Region (No. 9).*

No. 544.—**Morecambe Grammar School S.C.**—(Hon. Sec.: D. I. Harmsworth, 5, Ferncliffe Drive, Morecambe.) *North West Region (No. 10).*

No. 545.—**Rochester R.S.C.**—(Hon. Sec.: S. Davies, Kent Alloys, Ltd., Strood Extension, Priory Road, Strood.) *South Eastern Region (No. 12).*

No. 546.—**1466 (Holmfirth) Sqdn. A.T.C. Denby Dale Flt.**—(Hon. Sec.: Cadet J. Windle, "Yew Tree," Shepley.) *North Eastern Region (No. 2).*

No. 547.—**8th S.E. Leeds (Air Scouts) S.C.**—(Hon. Sec.: Flt. Ldr. A. J. Grace, 10 Garnet Place, Leeds, 11.) *North Eastern Region (No. 2).*

No. 548.—**St. James Junior Training Corps.**—(Hon. Sec.: Charles S. Phipps, 27, Stanley Street, Semilong, Northampton.) *North Midland Region (No. 3).*

No. 549.—**No. 348 Sqdn. (Ilkeston) A.T.C. S.C.**—(Hon. Sec.: Cdt. Cpl. J. W. Brown, Oakmead, Trowell Moor, Trowell, Notts.) *North Midland Region (No. 3).*

No. 550.—**No. 118 (Belper Strutt) Sqdn. A.T.C.**—(Hon. Sec.: Cpl. J. M. Marsden, Glenbum, Duffield, Nr, Derby.) *North Midland Region (No. 3).*

No. 551.—**"Seafire" S.C., Skegness.**—(Hon. Sec.: V. L. Drayton, 9, Vernon Road, Skegness, Lincs.) *North Midland Region (No. 3).*

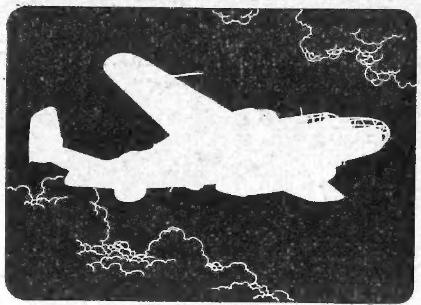
No. 552.—**No. 1360 Sqdn. A.T.C. S.C.**—(Hon. Sec.: Cdt. Flt. Sgt. R. Sheffield, 217a, Ilkeston Road, Nottingham.) *North Midland Region (No. 3).*

### CHANGES IN CLUB SECRETARIES

THE FOLLOWING are the names and addresses of new Hon. Secs. of Clubs. They replace those previously published:—

No. 3.—**Chelmsford S.C.**—(Hon. Sec.: T. S. Nisbett, 76, Rainsford Road, Chelmsford.)

### AEROPLANES IN OUTLINE—XXXI



The North American Mitchell I

No. 16.—**St. Pancras S.C.**—(Hon. Sec.: W. O. Kirkman, 4, Dinsdale Gdns., New Barnet, Herts.)

No. 94.—**Southampton S.C.**—(Hon. Sec : J. R. Fairman, 9, Avenue Road, Southampton.)

No. 104.—**Bristol S.C.**—(Hon. Sec.: W. G. S. Tucker, 101, Talbot Road, Bristol, 4.)

No. 119.—**Retford R.S.C.**—(Hon. Sec.: E. W. Woods, A.R.P.S., 32, Winston Green, Mattersey Thorpe, Nr. Doncaster.)

No. 195.—**Darlington Industrial.**—(Hon. Sec.: G. Goodyear, 28 Highfield Road, Darlington.)

No. 212.—**Cheltenham Grammar School A.T.C.**—(Hon. Sec.: N. B. Clayton, 1, Fairlight Place, Princes Road, Tivoli, Cheltenham, Glos.)

No. 223.—**1416 Renfrewshire 1st Dist. Sqdn. A.T.C.**—(Hon. Sec.: William Reid, 33, Greenwood Road, Clarkston, Glasgow.)

No. 233.—**Wadhurst and District.**—(Hon. Sec.: K. W. Jones, "Eldenhurst," Old Station Road, Wadhurst.)

No. 240.—**Swansea Grammar School A.T.C.**—(Hon. Sec.: Cadet Cpl. W. T. Bane, "Belvedor," 17, Tycoch Road, Sketty, Glam.)

No. 248.—**Sherborne School S.C.**—(Hon. Sec.: P. C. Hepherd, The Green, Sherborne, Dorset.)

No. 304.—**568 Sqdn. A.T.C., S.C.**—(Hon. Sec.: B. Rarp, 69, Tudor Drive, Watford, Herts.)

No. 317.—**Woking County School A.T.C. Sqdn.**—(Hon. Sec.: J. D. Aldridge, "Small's," Woodman Lane, Woking, Surrey.)

No. 326.—**99 Folkestone Sqdn. A.T.C. S.C.**—(Hon. Sec.: D. Rochefort, 21, Cheriton High St., Folkestone, Kent.)

No. 367.—**Woodcote S.C.**—(Hon. Sec.: M. Linden, 7, Woodmansterne Road, Carshalton, Surrey.)

No. 406.—**Cambuslang A.T.C. S.C.**—(Hon. Sec.: Flt. Sgt. Alex Graham, 33, Croft Road, Cambuslang.)

No. 417.—**No. 1458 Sqdn. (Deal) A,T.C.**—(Hon. Sec.: J. M. Adkins, "Elsinore," Harold Road, Deal, Kent.)

No. 466.—**1544 (St. Aloysius' College) Flight.**—(Hon. Sec.: Cdt. William Gribben, 5, Penrith Drive, Glasgow, W.2.)

No. 480.—**Sentinel S.C.**—(Hon. Sec.: Mr. A. Silk, c/o Alley and MacLellan, Ltd., Sentinel Valve Works, Bromyard Road, Worcester.)

No. 489.—**St. George's S.C.**—(Hon. Sec.: R. McLennan, "Hillview," Sunninghill, Berks.)

### MEETING OF EXECUTIVE COMMITTEE

The eleventh meeting of the Executive Committee of the General Council of the N.A.S.C. took place in London on Tuesday, March 2.

Numbers of clubs are now overdue in the payments of their capitation fees to their respective Regional Councils. These fees are fixed by the Regional Councils and a certain proportion of them is paid over to the General Council. If the Association is to run on a sound financial basis these fees must be forwarded to the Regional Hon. Treasurers as soon as they become due.

### N.A.S.C. LIBRARY

Some slight delay will be caused in the issue of receipts and library material by the illness of the Hon. Organising Secretary and also by the temporary exhaustion of certain supplies as mentioned above.

Raid Spotters' Notebooks are now temporarily out of print, but supplies should be available again towards the end of the month.

Confusion is bound to be caused if Regional Hon. Secretaries or Treasurers continue to lump monies which are due to the General Funds of the Association with those of the Library Fund. The former are dealt with by the Hon. Genl. Treasurer, Mr. M. R. T. Edwards, and the latter by the Hon. Assistant Organising Secretary, Mr. C. F. Andrews. Two entirely separate banking accounts are kept. The Regional officers mentioned will appreciate that a double transaction is, therefore, involved each time monies due to both the General Fund and Library Fund are sent in one amount, although there is no objection to posting separate remittances for both Funds in one envelope.

### "AIRMINDEDNESS"

THE EXMOUTH DISTRICT Anglo-Russian Council is organising a postal competition on Airmindedness in aid of the comforts fund for Russian Women and Children. Prizes will be awarded for the best answers to five questions on various aspects of aviation. The first prize will be a framed photograph of the de Havilland Mosquito autographed by Capt. Geoffrey de Havilland. A minimum entry fee of 6d. will be charged for each entry. This contest is open to all, and full details can be obtained from:—"Airmindedness," c/o Roy Galsworthy, 46, Rolle Street, Exmouth. The closing date for entries is March 25.

### SOUTH-EASTERN REGION

WILL club secretaries please send orders for test cards, membership cards, badges, etc., to the Hon. Treasurer of the South-Eastern Regional Council, Mr. T. A. Skinner, 4, Mildenhall Drive, St. Leonards-on-Sea, and *not* to the Hon. Secretary

## FORTHCOMING EVENTS

**March 11**

**Guildford.**—County Technical College, Stoke Park.—19.30 hrs.—(S.C. 150.)
**Seaham.**—Rock House.—18.30 hrs.—(S.C. 230.)
**Crosby.**—St. Mary's College.—19.00 hrs.—(S.C. 320.)
**Battersea.**—Men's Institute, Latchmere Rd., S.W.11.—19.45 hrs.—(S.C. 483.)
**Doncaster.**—C.D.I. Room, 21, French Gate.—19.00 hrs.—(S.C. 106.)
**Harrow.**—Kodak Social Centre.—19.30 hrs.—(S.C. 75.)
**Westminster.**—Thornycroft House.—18.00 hrs.—(S.C. 142.)

**March 12**

**Kentish Town.**—The North Western Polytechnic, Prince of Wales Rd., N.W.5.—18.30 hrs.—(S.C. 16.)
**Hoddesdon.**—The Clock House.—19.30 hrs.—(S.C. 128.)
**Leeds.**—College of Technology, Albert Hall, Cookridge St.—18.30 hrs.—(S.C. 148.)
**Preston.**—Central Police Station.—19.30 hrs.—(S.C. 249.)

**March 14**

**Birmingham.**—No. 17 Poppy Lane.—14.45 hrs.—(S.C. 15.)
**Watford.**—Watford Public Library.—10.30 hrs.—(S.C. 118.)

**March 15**

**Beckenham.**—Bromley Road School.—19.30 hrs.—(S.C. 110.)
**London.**—"Evans of the Broke" R.S. Contest.—Science Museum, South Kensington.—19.00 hrs. (L.R.C.)

**March 16**

**Southend.**—120, Victoria Av.—19.00 hrs.—(S.C. 1.)
**Stoke-on-Trent.**—Back Glebe Street, Rear of 31, Kingsway.—15.00 hrs.—(S.C. 60.)
**N. London.**—Northern Polytechnic, Holloway Rd., N.7.—19.00 hrs.—(S.C. 156.)
**Crosby.**—St. Mary's College.—19.00 hrs.—(S.C. 320.)
**London.**—Meeting of Executive Committee of General Council, Bowling Green Lane, E.C.—18.00 hrs.

**March 17**

**Sunderland.**—Sons of Temperance Room, Norfolk St.—19.30 hrs.—(S.C. 37.)
**Hastings.**—White Rock Pavilion.—19.30 hrs.—(S.C. 47.)
**Rickmansworth.**—112, High St.—19.30 hrs.—(S.C. 81.)
**Dagenham.**—Ford's Sports Pavilion, Kent Avenue.—19 00 hrs.—(S.C. 99.)
**Walton-on-Thames.**—Anglo-Iranian Oil Co., Ltd., New Zealand Av.—19.45 hrs.—(S.C. 96.)
**Dudley.**—"Hen and Chickens" Inn.—19.30 hrs.—(S.C. 113.)
**Wigan.**—Town Hall.—19.15 hrs.—(S.C. 266.)
**Sheffield.**—Geo. Senior and Sons, Ltd., Ponds Forge, Sheaf St.—19.00 hrs.—(S.C. 178.)
**Ratcliffe.**—College.—14.30 hrs.—(S.C. 331.)

**March 18**

**Guildford.**—County Technical College, Stoke Park.—19.30 hrs.—(S.C. 150.)
**Seaham.**—Rock House.—18.30 hrs.—(S.C. 320.)
**Crosby.**—St. Mary's College.—19.00 hrs.—(S.C. 320.)
**Battersea.**—Men's Institute, Latchmere Rd., S.W.11.—19.45 hrs.—(S.C. 483.)
**Doncaster.**—C.D.I. Room, 21, French Gate.—19.00 hrs.—(S.C. 106.)

**March 19**

**Hoddesdon.**—The Clock House.—19.30 hrs.—(S.C. 128.)
**Stapleford.**—Constitutional Club.—19.00 hrs—(S.C. 159.)
**Harrow.**—Kodak Social Centre.—19.30 hrs.—(S.C. 75.)
**Preston.**—Central Police Station.—19.30 hrs.—(S.C. 249.)

**March 20**

**Bolton.**—Quarterly Meeting of North West Regional Council.—Bolton Town Hall.—14.30 hrs.
**Wembley.**—"Combined Operations."—Barham Mansion.—19.30 hrs. (S.C. 21.)

**March 21**

**Ratcliffe.**—College.—19.45 hrs.—(S.C. 331.)
**Appleby.**—Grammar School.—14.00 hrs.—(S.C. 411.)

**March 22**

**Hendon.**—Technical College.—19.30 hrs.—(S.C. 124.)
**Southover.**—Burntash Lane.—19.15 hrs.—(S.C. 454.)

**March 23**

**Streatham Common.**—St. Joseph's College, A.T.C. Hdqrs., Crown Point.—19.00 hrs.—(S.C. 13.)
**N. London.**—Northern Polytechnic, Holloway Rd., N.7.—19.00 hrs.—(S.C. 156.)
**Crosby.**—St. Mary's College.—19.00 hrs.—(S.C. 320.)

**March 24**

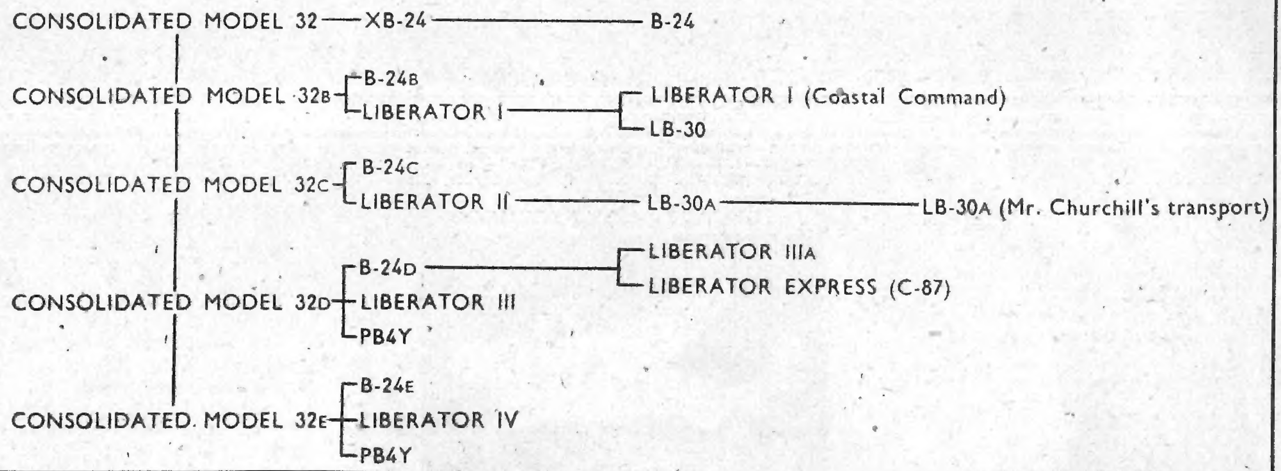
**Blackfriars.**—The Cinema, Unilever House.—18.00 hrs.—(S.C. 12.)
**Newbury.**—Elliotts of Newbury, West St. entrance.—19.30 hrs.—(S.C. 51.)
**Belfast.**—45, Howard St.—(S.C. 151.)
**Wigan.**—Town Hall.—19.15 hrs.—(S.C. 266.)
**Sheffield.**—Geo. Senior and Sons, Ltd., Ponds Forge, Sheaf St.—19.00 hrs.

**March 25**

**Harrow.**—Kodak Social Centre.—19.30 hrs.—(S.C. 75.)
**Westminster.**—Thornycroft House.—18.00 hrs.—(S.C. 142.)

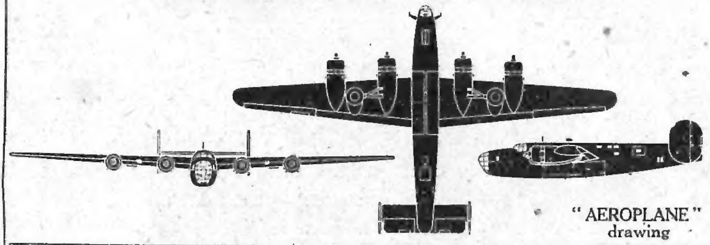
# AIRCRAFT COMPARISONS—LXXIX

# THE LIBERATORS

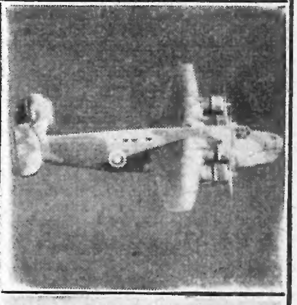


## CONSOLIDATED LIBERATOR I (B-24B)

Span: 110 ft. 0 in.
Length: 63 ft. 4 in.
Height: 17 ft. 11 in.
Loaded Weight: 41,000 lb.
Max. Speed: 280 m.p.h. at 16,000 ft.
Four Pratt and Whitney Twin Wasp R-1830-S3C4-G motors, 1,200 h.p.

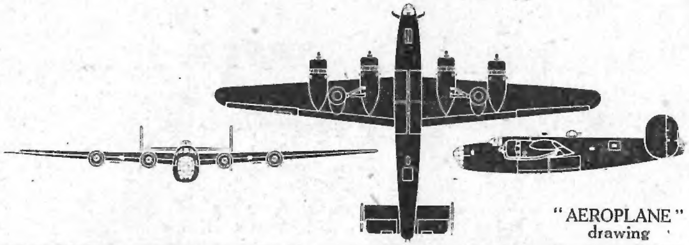


"AEROPLANE" drawing



## CONSOLIDATED LIBERATOR II (B-24C)

Span: 110 ft. 0 in.
Length: 66 ft. 0 in.
Height: 17 ft. 11 in.
Loaded Weight: Not available for publication.
Max. Speed: 280 m.p.h. at 16,000 ft.
Four Pratt and Whitney Twin Wasp R-1830-S3C4-G motors, 1,200 h.p.



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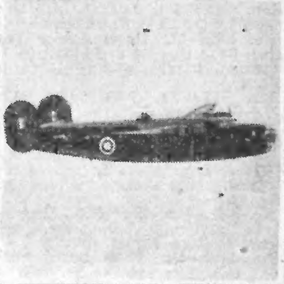
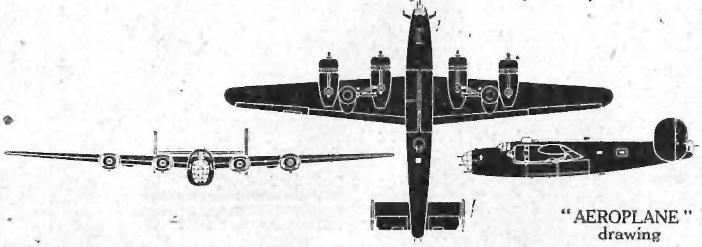


## CONSOLIDATED LIBERATOR III (B-24D)

Span: 110 ft. 0 in.
Length: 66 ft. 4 in.
Height: 17 ft. 11 in.
Loaded Weight: 52,000 lb.
Max. Speed: Approx. 290 m.p.h. at 25,000 ft.
Four Pratt and Whitney Twin Wasp R-1830-S4C4-G motors, 1,200 h.p.



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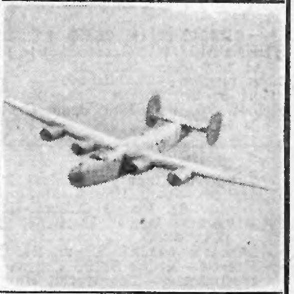
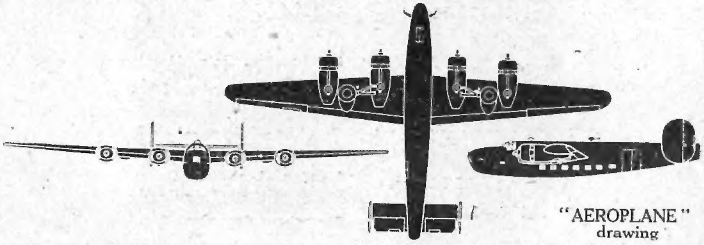
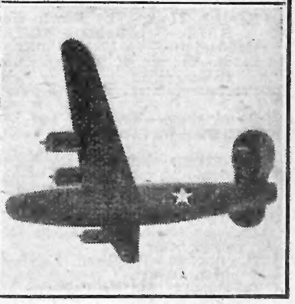


## CONSOLIDATED LIBERATOR EXPRESS (C-87)

Span: 110 ft. 0 in.
Length: 65 ft. 8 in.
Height: 17 ft. 11 in.
Loaded Weight: Not available for publication.
Max Speed: Approx. 300 m.p.h. at 25,000 ft.
Four Pratt and Whitney Twin Wasp R-1830-S4C4-G motors, 1,200 h.p.



"AEROPLANE" drawing



BOMBER-TRANSPORTS.—Both bomber and transport versions of the Consolidated Model 32 have operated with success with the U.S.A.A.F. and with the R.A.F. The prototype, the XB-24, proved satisfactory and in addition to orders by the U.S. Army, 120 were ordered by France in 1939. After the collapse of France in 1940 the order was diverted to Great Britain. These incorporated certain modifications and were built to a basic design named the Consolidated Model 32B. The Royal Air Force named them the Liberator I and modified some for use on operations with Coastal Command and some, the LB-30s, to operate as transports on the Atlantic Ferry service. In the U.S.A. numbers of Consolidated Model 32Bs went into service—in the U.S. Army as the B-24B. Modifications by the manufacturer developed the Consolidated Model 32C, known in the U.S. Army as the B-24C, and in this country as the Liberator II. Some Liberator IIs were converted into LB-30As to supplement the LB-30s. Mr. Churchill travelled in an improved version of the LB-30A on his recent tour of North Africa and the Middle East. The Consolidated Aircraft Corporation modified the Model 32C to the Model 32D which is in service in the U.S. Army as the B-24D, in the U.S. Navy as the PB4Y-1 and in the R.A.F. as the Liberator III. Some B-24Ds were transferred to the R.A.F. under the name of Liberator IIIA. Modifications to the B-24D by the manufacturer have produced the Liberator Express, C-87, a four-motor transport for the U.S.A.A.F. The latest development is the Consolidated Model 32E which is being produced at Willow Run as the B-24E, as the PB4Y-2 and as the Liberator IV.

# CORRESPONDENCE

## "THE ROSES OF YESTERYEAR"

THE LETTER from "H.L.R." and your footnote on page 35 of the Feb. 11 issue, are most interesting and recall to mind many little known fighters produced at the close of the last war.

It is strange that most details published of the Bristol F. Scout refer to the Arab-engined model, whereas all available photographs show the Mercury fitted version.

If the B.A.T. Basilisk—that rather clumsy looking two-bay biplane with wide undercarriage—did 162 m.p.h., it seems hard to understand why that nice little single-bay I-strutted racer, the Nieuport Goshawk (in which poor Hawker died) did only 166 m.p.h. Both had the 320 h.p. A.B.C. engine.

A photograph of the Sopwith Snapper would be appreciated. In what way did this machine differ from the Sopwith Snark? And from the Sopwith-Hawker seaplane (Cosmos Jupiter) flown in the 1919 Schneider fiasco and (as a landplane) in the 1920 Aerial Derby?

Details of the first aeroplane produced by Hawker's in 1921 would be welcome—the Duiker—a two-seater fighter strut-braced parasol monoplane with Jupiter engine.

E. J. ARNSBY.

[Photographs of these aeroplanes appear in the next column, together with their top speeds as officially quoted. The Snark medium-height fighter (not illustrated) was a single-bay triplane with parallel strut bracing. The fuselage was the same as that of the Snapper, a low fighter. The Rainbow which flew in the Aerial Derby of 1920 was a landplane version of the 1919 Schneider. The Nieuport Goshawk flown by L. R. Tait—Cox set up a British Speed Record of 166.7 m.p.h. in July, 1920. Harry Hawker later crashed in the Goshawk, having become ill in the air. The Hawker Duiker was originally produced as a single-seat fighter, the first product of the then newly formed H. G. Hawker Engineering Co. Ltd., reborn from the Sopwith Aviation Co. Ltd. Later a two-seat version was built for South Africa as fighter and corps-reconnaissance monoplane. Several were delivered.

Further research into the maximum speed of the B.A.T. Basilisk revealed that the special trials previously referred to as flown by Tait—Cox were, in fact, done on the smaller B.A.T. Bantam with the 200 h.p. A.B.C. Wasp motor. Among others, Mr. H. P. Folland, the well-known aircraft designer and director of Folland Aircraft Ltd., has written to us saying that in his opinion the speed of the Basilisk was not more than 150 m.p.h. The figure of 162 m.p.h. was quoted as official by Jane's "All the World's Aircraft" in 1919.—ED.]

## AN A.T.C. TEST

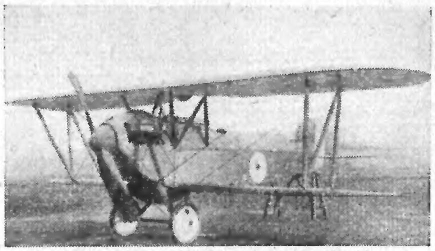
SOME WEEKS AGO I read with great disgust a list of 36 aircraft on which the Aircraft Recognition Test for A.T.C. Proficiency Part II is based. It was published in the February issue of the A.T.C. Gazette.

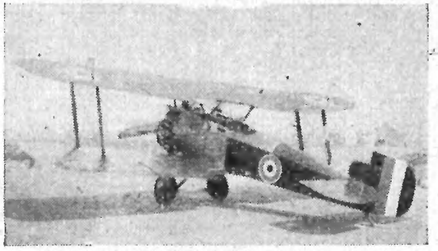
Included in this list are the Junkers Ju 88B and the Junkers Ju 88A6 with a difference of six inches between their wing spans.

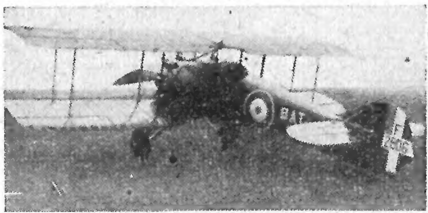
All the silhouettes which I have so far come across are those of the Ju 88A6 and I shall be glad if you will let me know what other differences there are between these aeroplanes.

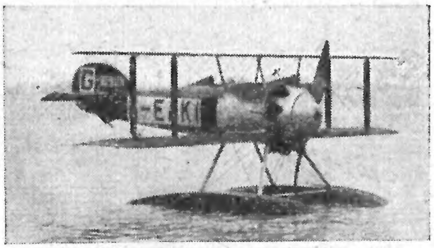
I personally consider that the list should be revised to include such aeroplanes as the de Havilland Mosquito and Boeing Fortress II and cut out such duplications as the one I have mentioned and the Douglas Boston and Havoc as well as such aeroplanes as the Airspeed Oxford and Avro Anson.

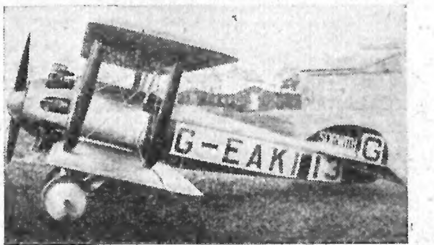
B. T. COUDON.

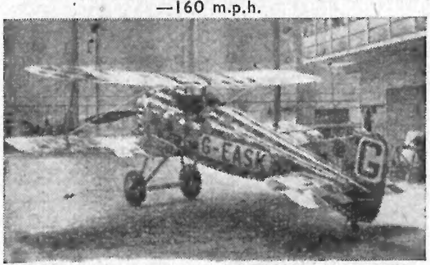

1917—THE BRISTOL F.1 Scout (Arab)—138 m.p.h.

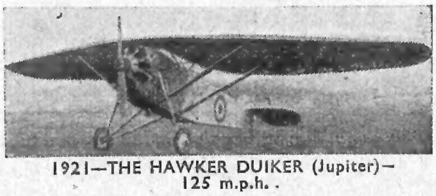

1918—THE SOPWITH SNAPPER (Dragonfly) 140 m.p.h.


1919—THE B.A.T. BASILISK (Dragonfly)—About 150 m.p.h.


1919—THE SOPWITH SCHNEIDER (Jupiter) —160 m.p.h.


1920—THE SOPWITH RAINBOW (Dragonfly) —160 m.p.h.


1920—THE NIEUPORT GOSHAWK (Dragonfly) —166 m.p.h.


1921—THE HAWKER DUIKER (Jupiter)—125 m.p.h.

[The inclusion of the Ju 88B is peculiar to the A.T.C., and we can think of no good reason for it, especially as details concerning it are not too well established.—ED.]

## THE CONSOLIDATED 31

HAS the Consolidated Model 31 (or a development of it) been put into production? This flying-boat has been described as one of the World's most efficient aeroplanes and the performance given by you in the first edition of "Aircraft Recognition—Part IV" certainly seemed formidable (even allowing for a drop in performance for fitting it with gun turrets, etc.). However, for the past year or so there seems to have been little or no news forthcoming about this type.

Are any Vultee Vanguards flying in this country at present? Apparently, a number ordered by Sweden were to be diverted to the R.A.F., but did they ever arrive—or were they diverted again to China?

Are there any Vickers Wellesleys now flying in Great Britain? If so, for what purpose(s) are they used?

P. D. BREEN, A.T.C.

[Only one Consolidated 31 was built and its production was never taken up because of the urgent need to continue building Catalinas and to put the Liberator and Coronado into production. Nevertheless, the Model 31 was a very efficient boat and was, in fact, developed to fulfil a U.S. Navy specification, and, we believe, had the designation XPB3Y-1. No Vanguards are flying here. The original Swedish order was transferred to China. The Wellesley is now obsolete, although, we believe, one is still flying in Great Britain.—ED.]

## TORPEDOES

WHY DO we fit an 18-in. torpedo to our torpedo aircraft. Would a 21-in. torpedo be too heavy, or a 24-in. impracticable? I ask this because an 18-in. torpedo has often hit but failed to sink enemy shipping. Obviously the 21-in. would have a greater chance of success.

Having had THE AEROPLANE SPOTTER since it began, I deeply regret the continued fortnightly issue. Surely it could be published weekly. It is of far more importance than twopenny "bloods."

CADET, No. 933, A.T.C. Ilford Wing.

[The American torpedoes are of 22.4-in. diameter but carry a slightly smaller explosive charge in the war-head. On the other hand, being shorter and designed for stowage in aeroplanes and not merely an adapted Naval type, the American torpedo has undoubted advantages.—ED.]

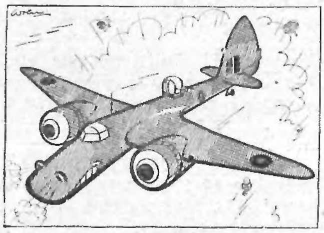
## THE CORSAIR

YESTERDAY I heard that the Corsair had been on operations on aircraft carriers. It was credited with a cruising speed of over 400 m.p.h. Surely this is a bit far-fetched, because in your issue of Feb. 11, 1943, it was quoted with a speed (max.) of 366 m.p.h. Would the 400 cruising speed be near the ground?

J. GAPP,

[The cruising speed of 400 m.p.h. does not exist. The top speed of the Corsair has been quoted as 366 m.p.h. in the U.S.A., and we believe it to be accurate. A cruising speed of 400 m.p.h. could only be attained vertically!—ED.]

## ODDENTIFICATION—XCVIII



The Bristol Blenheim V

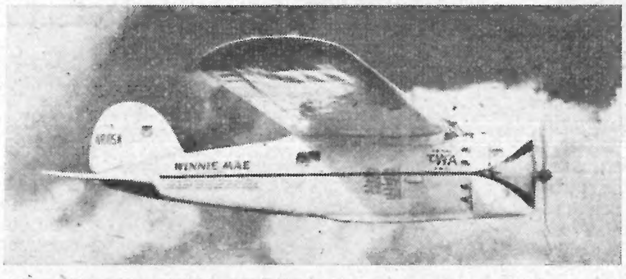
### DO YOU KNOW?—XLX

1. An aeroplane with a gun turret in the engine nacelle?
2. Two aeroplanes, each with gun positions in two engine nacelles?
3. Two modern six-motor German aeroplanes?
4. An eight-gun fighter with air-cooled engine and elliptical wing?
5. The designation of the float-plane "Zero" fighter?
6. The name of the Navy's latest T.S.R. (Torpedo Spotter Reconnaissance) aeroplane?
7 Two British night fighters with dihedral tailplanes?
8. The difference between the Mosquito II and IV?
9. The make of motor fitted to the Henschel Hs 129?
10. A British heavy bomber fitted with four radial motors and twin fins and rudders.

### ANSWERS TO "DO YOU KNOW"—XLIX

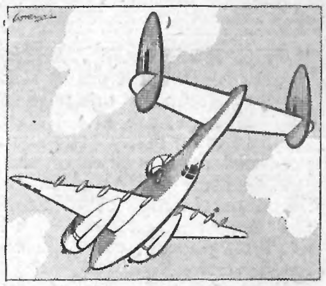
1. Whirlwind; Mosquito.
2. N.A. Mitchell I.
3. One. The rear of the engine nacelles drop with the flap.
4. Beneath the wings. The "umbrella type" tail brake has been abandoned.
5. Four Piaggio P.XII RC. 35 radial motors.
6. Vickers-Armstrongs Ltd.
7. Aichi K.99.
8. Stormovik; Chato.
9. Messerschmitt Me 109G.
10. Junkers Ju 88; Messerschmitt Me 210.

## FAMOUS AIRCRAFT—VI



THE LOCKHEED VEGA WINNIE MAE—1933.—At 22.59 hrs. (N.Y. time) on July 22, 1933, Wiley Post, a native of Oklahoma, landed on Floyd Bennett Field, New York, at the conclusion of his solo flight round the World in the Lockheed Vega monoplane Winnie Mae. The time for the circumnavigation of the top of the World was 7 days 19 hours 10 minutes, or 21 hours 1½ minutes less than the time which Wiley Post and Harold Gatty made over the same route and in the same machine in 1931. He covered a distance of 16,500 miles, as against 25,000 miles round the Equator, in about 187 hours. Wiley Post left Floyd Bennett Field, New York, on July 15 and flew across the North Atlantic to Berlin in 25 hours 45 minutes. After a two-hour stop he flew to Königsberg, where he stayed the night of July 16. On July 17 he flew to Moscow and then on to Novosibirsk, where he arrived early the following morning. After re-fuelling he flew to Irkutsk. Fog and rain held him up until the morning of July 19 when he left for Kharbarovsk. He was forced down by bad weather at Rukhlova, 700 miles short of his mark, but flew on after a short stop and reached Kharbarovsk early next morning. After a stay of a few hours he continued to Nome, Alaska, which he passed over to land at a place called Flat, also in Alaska. Here he damaged his airscrew but a new one was flown up from Fairbanks. During his flight from Kharbarovsk he crossed Latitude 180 which presented him with a whole day to take away from the number of days which he must have been ticking off ever since he left New York. His Thursday was 48 hours long so that although he left Kharbarovsk on Thursday morning it was still Thursday morning when he passed over Nome, 2,000 miles farther on. His airscrew replaced, he left Flat early on Friday, July 21, for Fairbanks. After a short halt there, he continued to Edmonton, Alberta. He left again at 09.40 hrs. on July 22 and flew with a following wind to New York, arriving at Floyd Bennett Field two hours before he was expected. The Winnie Mae was originally designed as a seven-seat commercial cabin high-wing monoplane, the Lockheed Vega 5c, with a 450 h.p. Pratt and Whitney Wasp SC-1 radial motor. It had a span of only 41 ft., a loaded weight of 4,750 lb., and the maximum tankage on its record-breaking flight was 625 Imp. galls. The maximum speed was 195 m.p.h., and the cruising speed was 170 m.p.h., both at 6,000 ft.

## ODDENTIFICATION—XCIX



The Lockheed Vega Ventura I.

### USEFUL BOOKS

A few copies of "Oddentification" by Wren are still available. This little book of aeroplane caricatures which bring out so faithfully the salient recognition features is of great value in teaching aircraft recognition. Another book which supplies essential background to the subject is "Aeroplanes in Detail," by J. H. Clark. This is a collection of the striking double-page drawings of detailed construction with an accompanying double-page photograph of each type.

These books are available from THE AEROPLANE Book Department, Bowling Green Lane, E.C.1, at 2s. 2d., post free, for "Oddentification"; and 2s. 8d., post free, for "Aeroplanes in Detail."

### THE LONE SPOTTERS' CLUB

One of the Hon. Secretaries of the Lone Spotters' Club has joined H.M. Forces. All the papers and correspondence left by him have been taken over by a member of the Executive Committee of the General Council. Until a further announcement is made all members of the club should refrain from writing, but any urgent correspondence can be sent to the Hon. General Secretary (South), Mr. P T. Sampson, 56, Forest Drive West, E.11.

## THE SPOTTERS' GLOSSARY OF AERONAUTICAL TERMS

TOWNEND RING.—A narrow-chord cowling ring round the cylinders of a radial motor to reduce drag and improve cooling. The Townend ring was the invention of Dr. H. C. H. Townend in 1929. It caused a great reduction in the drag of radial motors and was widely used before the long-chord N.A.C.A. cowling came into general use. Aeroplanes with Townend rings are the Vickers Wellesley, the Westland Wallace and the Gloster Gauntlet.

TRACTOR AEROPLANE. — An aeroplane which has a tractor airscrew or airscrews.

TRACTOR AIRSCREW.—An airscrew designed to pull on its airscrew shaft. A tractor airscrew is usually fitted in the nose or in the front of motor nacelles in the wings and is distinct from a propeller (or pusher airscrew) which propels the aeroplane and is thus situated in the rear.

TRADE WINDS. — Persistent winds which blow in latitudes 30 deg. N. and S., towards the equatorial doldrums, north-east in the northern hemisphere and south-east in the southern hemisphere. The reverse winds above the trade winds are called the anti-trades.

TRAILING AERIAL. — A weighted radio aerial which trails in flight, mounted in an aeroplane and usually capable of being wound in or out.

TRAILING EDGE.—The rear edge of a streamlined body, aerofoil, or control surface.

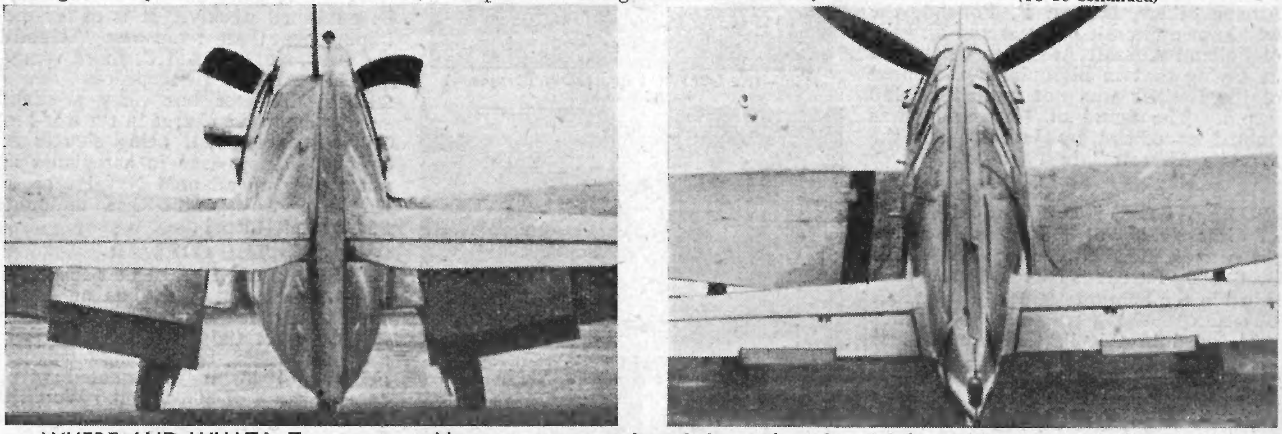
TRAINERS.—A generic term for aircraft used for flying training.

TRANSPORT.—A civil or military aeroplane used for freight or troop carrying.

TRIM.—The set or angle at which an aeroplane flies under given conditions.

TRIMMING TABS.—Small auxiliary movable tabs on the trailing edges of control surfaces. Originally designed to provide trim as an improvement on incidence gears, they were found to have a potent effect on the aerodynamic balance of control surfaces.

(To be continued)



WHERE AND WHAT?—Two more problems to test your knowledge. Last fortnight's problems were (left) a Hawker Hurricane IIc showing the starboard 20 mm. cannon and synchronised camera and (right) a Republic Thunderbolt showing the staggered 0.50 in. machine-gun and Pitot head.

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